IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	Mamdani, et al
Serial Number	09/690,213
Filing Date:	October 17, 2000
Art Unit:	2617
Examiner:	Iqbal, Khawar
For:	**Method and system for facilitation of wireless e-commerce transactions**

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
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DECLARATION OF MALIK MAMDANI

I, the undersigned, Malik Mamdani, declare and state that:

1.   I submit this Declaration in reply to the most recent Office Action in the above-identified patent application. I am a named co-inventor and have personal knowledge of the matters addressed in the Declaration.

2.   The Office action identifies several references, including Lewis, U.S. Publication No. 2003/0105641, Hymel et al, WO 00/03328, and Whitworth, U.S. Publication No. 2001/0034717.

3.   The UPC codes described in Lewis and illustrated in Hymel are one-dimensional bar codes, such as illustrated below (from Hymel, Figure 2).
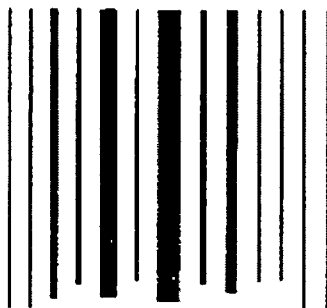
A one-dimensional bar code such as shown above has the property that it is readable in only one-dimension (horizontally, i.e., from left-to-right). The code, however, is highly redundant in the sense that the information is the same (across the code) regardless of where (from top to bottom) the horizontal scan occurs. This means that the code can be read even with considerable degradation. At the time of our invention (our provisional application was filed on July 13, 2000), a one-dimensional bar code such as illustrated above was readable from a typical mobile device web browser even though that interface would stretch, compress or otherwise contort the code as it was displayed on the screen. In other words, at the time of our invention, the redundancy inherent in the 1D bar code, even after contortions, made the code a good design choice for display on a mobile device. This is why we included several embodiments in our specification directed to use of these 1D bar codes in our system and method.

4. While a one-dimensional bar code had an advantage in that it could be read from a mobile device even under degraded display conditions, at the time of the invention we believed that such codes also had deficiencies in that they could only encode a small amount of data. Our disclosure in fact described several applications of our invention where we envisioned a transaction code being optically scanned from a wireless device at two distinct times in a complex wireless transaction. The first scan "partially" completes the wireless transaction, and the second scan then completes that transaction. The written description provides several examples of this two-stage scanning operation to complete a single wireless transaction; see, e.g., the "Car Rental" example beginning at page 17, and the "Movie Theater" example beginning at page 23. The first and second transactions code may (or may not) be different codes, but these types of complex wireless transactions required much more information to be encoded in the transaction code than could be included in a simple one-dimensional code.

5.   Accordingly, our specification also makes reference to alternative embodiments that use two-dimensional (2D) codes or images. A significant motivation for including these alternative embodiments was described at page 14, lines 21-22, namely, that such codes have the "ability to embed several thousand bytes of information." A 2D image provides this flexibility by encoding information "in two dimensions" such as shown in the examples below:
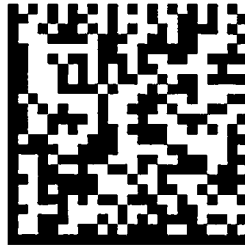
6.   Neither Lewis nor Hymel describe or suggest the use of 2D image codes such as shown above. The objective of these systems was merely to replace the paper portion of then-existing practices (a paper ticket in Lewis, or a paper coupon in Hymel) to create an electronic representation of the ticket or coupon. For these applications, the 1D bar code was sufficient because of the limitations of then-existing scanners as well as the fact that basic event tickets and product coupons only required a small amount of data to be encapsulated in bar code form. Neither Lewis nor Hymel references disclosed more complex wireless transaction embodiments (such as described in our patent application) and, in any event, and as noted above, the 1D UPC type codes shown in these references could not encode sufficient data to facilitate such transactions.

7.   A 1D bar code does not encode information "in two dimensions" even though it has two dimensional bars or lines.

8.   At the time of our invention, and due to the inherent limitations of mobile devices, mobile device operating systems, and mobile web browser designs, one of ordinary skill in the pertinent art would not have used 2D image codes for scanning from a wireless device. This was not the case with respect to the 1D bar code. With the redundancy inherent in the 1D code, even after distortion, the code was still capable of being scanned from a moving device in conditions of poor ambient light and/or other reflections.
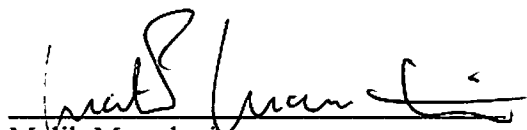
9.   There has now been significant commercial success for applications that use a 2D image code to facilitate a complex wireless transaction where a first scan "partially" completes the wireless transaction and the second scan then completes that transaction. One such application is an airline boarding pass. In October 2007, the International Air Transport Association (IATA) announced a global standard for mobile bar codes to be used as airline boarding passes. In December 2007, the U.S. Transportation Administration (TSA) authorized a pilot program with Continental Airlines for mobile bar code check-in at Houston's Intercontinental Airport. In 2008, Continental, Delta, American, Northwest, and Alaska Airlines introduced mobile bar code boarding passes at 11 major airports across the United States. Twenty percent (20%) of all airlines worldwide currently use mobile bar code boarding passes, a number that is expected to rise to 70%. A 2008 SITA survey found that thirty four percent (34%) of airline passengers prefer electronic boarding passes to use of paper. Earlier this year, the TSA announced that hand-held scanners will now be deployed in airports nationwide to facilitate these wireless transactions. Juniper Research estimates that, by 2011, several billion tickets (including airline boarding, event and other entertainment tickets) worth $87 billion will be delivered to over 200 million mobile phones, and the airline boarding tickets are expected to be implemented using the techniques set forth in the subject claims.

10.   Independent claims 1, 30 and 47-48 describe the use of a 2D image code to facilitate a mobile device transaction where a first scan "partially" completes the transaction and a second scan completes that transaction. The mobile bar code application described in the above-paragraph is one example of this application. As of the end of 2008, approximately one percent (1%) of all airline passengers worldwide use mobile boarding passes that include 2D image codes to facilitate a two-stage wireless transaction (a first scan of the device occurs at the

security line and the second scan occurs at the departure gate). By the end of 2009, it is anticipated that 6% of all airline passengers worldwide will check in for their flights using this technique.

11.   In addition to the mobile boarding pass application, the described method and system of our invention is also anticipated to be used in other mobile device applications such as train/bus ticketing, mobile payments, mobile shopping, stored-value redemption, and loyalty-card replacements.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-referenced application or any patent issuing thereon.

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Malik Mamdani

February 10, 2009